5913

Department of Energy

Ohio Field Office
Fernald Closure Project
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MAY 2 2005

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0233-05

Mr. Thomas Schneider, Project Manager
Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

CONTRACT DE-AC24-01OH20115, RESPONSE TO COMMENTS FOR THE ADVANCED WASTEWATER TREATMENT FACILITY IMPLEMENTATION PLAN FOR ABOVE-GRADE DECONTAMINATION AND DISMANTLEMENT

Reference: Letter, J. A. Saric to J. W. Reising, "Re: OU 3 AWWT Complex Implementation Plan," dated April 19, 2005

In response to the referenced letter, the United States Environmental Protection Agency's (US EPA) comments relating to the Advanced Wastewater Treatment (AWWT) Facility Implementation Plan for Above-Grade Decontamination and Dismantlement (D&D) have been addressed.

This letter transmits the response to comments along with the AWWT Implementation Plan Page Change Notice 1 (PCN1). Please remove the existing implementation plan pages affected by this change and replace them with the enclosure.

If you have any questions or require additional information, please contact Ed Skintik at (513) 246-1369.

Sincerely,

for William J. Taylor
Director

FCP:Skintik

Enclosure: As Stated

cc w/enclosures:
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E. Skintik, OH/FCP
G. Jablonowski, USEPA-V, SR-6J
T. Schneider, OEPA-Dayton (three copies of enclosure)
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ECDC Fluor Fernald Inc./MS52-7 Project Number 1789.2.1

AWWT COMPLEX IMPLEMENTATION PLAN FOR ABOVE-GRADE D&D FERNALD CLOSURE PROJECT RESPONSE TO USEPA COMMENTS

GENERAL COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Not applicable (NA) Page #: NA Line #: NA
Original General Comment #: 1
Comment: The plan describes decontamination and dismantlement (D&D) of above-grade components of the Advanced Wastewater Treatment (AWWT) Complex. The plan should reference other plans that will cover the D&D of the concrete slabs and excavation and removal of the concrete slabs and contaminated soil under the AWWT Complex's footprint.

Response: The following text has been added as Subsection 1.2, Paragraph 4: "Excavation and removal of the underlying contaminated soil within the AWWT Complex footprint will be addressed in the Fernald Closure Project Area 7 Support Areas Integrated Remedial Design Package that will be submitted in May 2005. Excavation of contaminated soil will start after all the D&D activities are completed in the AWWT Complex footprint.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Not applicable (NA) Page #: NA Line #: NA
Original General Comment #: 2
Comment: Many acronyms and abbreviations are used throughout the text; however, not all of them are listed and defined in the acronym list. The text should be revised to list all acronyms and abbreviations used in the text.

Response: The acronym list has been revised to include all acronyms and abbreviations used in the text.

SPECIFIC COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.2 Page #: 1 Line #: NA
Original Specific Comment #: 1
Comment: The text states that Components 51A, 51B, 51C and G-008 are included in the AWWT Complex Decontamination and Dismantlement project. Figure 1-1 on page 4 does not show Component G-008. Figure 1-1 should be revised to show all the components.

Response: Figure 1 has been revised to identify Component G-008.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.3.2 Page #: 7 Line #: NA
Original Specific Comment #: 2
Comment: The text states that it is possible that 25,000 gallons of decontamination washwater may be generated during the decontamination of the AWWT Complex; however, the text does not explain how this washwater generated during decontamination of the building's interior will be contained and handled so that it does not run off the work site and into the surrounding ground. Building slabs are rather flat, and with all the drains plugged, the washwater will run off the slab. The document should be revised to address this issue.

Response: Subsection 2.3.2, second paragraph - The fourth sentence has been changed to read: "The wastewater collection system will include polyethylene-lined containment structure(s) over which equipment is washed, and filtered (20-micron prefilter and 5-micron filter) to remove entrained particulate during transfer into a holding tank."

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.3.4 Page #: 9 Line #: NA
Original Specific Comment #: 3
Comment: The text states that debris may be stockpiled if the number of containers is limited. The text should be revised to state how long the debris may be stockpiled.

Response: The intended plan is to load debris within the AWWT Complex for direct transportation to the OSDF. Staging of material pending disposal in the OSDF is not anticipated and will only be necessary for a limited period of time (no longer than thirty days) as required by weather conditions or emptying containers to allow OSDF transport. Therefore, no change is required.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.3.4 Page #: 10 Line #: NA
Original Specific Comment #: 4
Comment: The text states, "If the debris cannot be dispositioned in OSDF, either because the OSDF is not open or the debris does not meet the OSDF Waste Acceptance Criteria (WAC), the preferred disposition is Envirocare via the WPRAP rail system." It is unclear whether debris that does not meet the OSDF WAC will remain in containers and where the containers will be stored. The text should be revised to explain what will happen to debris that does not meet OSDF WAC.

Response: Subsection 2.3.4, sixth paragraph – This paragraph has been changed to read: " Any material failing to meet OSDF WAC will be size reduced as required to meet Envirocare WAC and transported to Soil Pile 7 for staging pending shipment to Envirocare."

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.4 Page #: 13, last paragraph Line #: NA
Original Specific Comment #: 5
Comment: The text states, "Further justification for not providing project specific air monitoring comes from analysis of data from the Plant 7 Dismantling..." It is not clear how data from another project will be used to determine requirements for air monitoring during D&D under this project. The text should address this issue, specifically because it also states, "Mitigation measures that might be employed in the event the set criterion are exceeded would include an increase in engineering and administrative controls during a particular task that has been identified as the cause or possible cause of elevated radiological levels." If the possibility of elevated radiological levels exists, project-specific air monitoring should be a requirement, not an option.

Response: Justification for not providing project specific air monitoring is based on U.S. EPA CAP88 computer modeling indicating that the emissions from the AWWT Complex D&D activities would be 0.060 mrem/year which is less than the 0.1 mrem/year monitoring criteria if this were a point source. It is our contention that since no monitoring would be required if this were a point source, then monitoring is not justified for this diffuse source. The information relating to analysis of the air monitoring data from the Plant 7 Dismantling... has been routinely provided in many of the most recent Fluor Closure Project D&D Implementation Plans as additional support documentation for non-requirement of project specific air monitoring.

Subsection 2.4, paragraph six under the "Radiological Air Monitoring" heading – the third sentence has been changed to read: The results of the computer modeling indicate that the maximally exposed individual would theoretically be located approximately 698 meters west-southwest of the project area and would potentially receive a maximum Total Effective Dose Equivalent of 6.0×10^{-2} mrem/year from D&D activities which is less than the 0.1 mrem/year monitoring criteria and does not justify additional air monitoring for this project."

Commenting Organization: U.S. EPA Commentor: Saric
Figure #: 2-1 Page #: 14 Line #: NA
Original Specific Comment #: 6
Comment: The figure shows locations of various air monitoring stations. The figure does not show the location of the AWWT Complex. The figure should be revised to include the location of the AWWT Complex.

Response: Figure 2-1 has been revised to show the location of the AWWT Complex.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.5.1 Page #: 16 Line #: NA
Original Specific Comment #: 7
Comment: The text lists the following activities under facility shutdown:

- Removal of salvageable equipment
- General clean-up
- Disconnection of utilities

It is not clear what will be done with the various liquids, solids and sediments that may still be present in the various tanks, vessels and containers. Typically before a facility is shut down, the process components are drained of liquids, solids are removed and left-over chemicals are transferred into storage containers and removed from the buildings. The filter media are removed and disposed of, and then the utilities are disconnected and salvageable items are removed. The text should be revised to address removal of process liquids, solids, left-over chemicals and other items.

Response: The removal of process liquids, solids and remaining chemicals is included within the Facility Shutdown scope. Subsection 2.5.1, first paragraph – The first paragraph has been changed to read: "The Facility Shutdown scope will be performed by the AWWT Operations personnel and may consist of the following activities (not to include the CAWWT facility):

- removal of process liquids, solids and remaining chemicals;
- removal of all salvageable equipment
- general clean up; and
- disconnection of all utilities

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.5.2 Page #: 16 Line #: NA
Original Specific Comment #: 8
Comment: The text states that a surface encapsulant will be applied to the internal surfaces of duct work. The text should be revised to state what the surface encapsulant will consist of and how it will be applied to the internal surfaces of duct work.

Response: Subsection 2.5.2, third paragraph – The fourth sentence has been changed to read: "For large items such as ductwork, the Fluor Fernald self-perform project team may apply a surface encapsulant (Childers Chill Lock or equal – used previously in FCP D&D activities) using pressure spraying equipment to the internal surfaces in lieu of sealing."

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.5.3 Page #: 19 Line #: NA
Original Specific Comment #: 9
Comment: The text discusses removal of concrete walls, however, the text does not discuss removal of concrete slabs, footings and foundations. The text should be revised to discuss removal of concrete slabs, footings and building foundations.

Response: Removal of concrete slabs, footings and building foundations does not fall under the scope of D&D activities. According to Section 3.2.7 of the OU3 Integrated Remedial Design/Remedial Action Work Plan, the "At and Below-Grade Dismantlement" activities shall be performed by Soil Characterization and Excavation Project (SCEP). SCEP is currently known as the Demolition, Soil and Disposal Project (DS/DP). The "At and Below-Grade" activities include removal of the concrete slabs, footings and foundations. Therefore, no change is required.

ADVANCED WASTEWATER TREATMENT FACILITY IMPLEMENTATION PLAN

DOCUMENT NUMBER 1789-PL-0007 (REV. 0) PCN1

PAGE CHANGES

INCLUDES:

COVER PAGE/RECORD OF REVISION

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OPERABLE UNIT 3

ADVANCED WASTEWATER TREATMENT FACILITY (AWWT) IMPLEMENTATION PLAN FOR ABOVE-GRADE DECONTAMINATION AND DISMANTLEMENT

APRIL 2005

FERNALD CLOSURE PROJECT
FERNALD, OHIO

U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

FINAL

DOCUMENT CONTROL NO. 1789-PL-0007 (REV. 0) PCN1

RECORD OF ISSUE/REVISION

DATE	REVISION NO.	DESCRIPTION AND AUTHORITY
3/15/05	Rev. 0	Issued Final Implementation Plan
4/26/05	PCN1	Per USEPA comments, changes incorporated into the Notation page, Figures 1-1 and 2-1 and Subsections 1.2, 2.2, 2.3.2, 2.3.4, 2.4, 2.5.1, 2.5.2 and 4.0.

NOTATION PCN1

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Abbreviations, Acronyms, and Initials

ACM	Asbestos-Containing Material(s)
ADT	Articulating Dump Truck
AWWT	Advanced Waste Water Treatment System
CAWWT	Converted Advanced Wastewater Treatment System
DOE	United States Department of Energy
D&D	Decontamination and Dismantlement
FCP	Fernald Closure Project
HEPA	high-efficiency particulate air [filter]
HVAC	heating, ventilation and air conditioning
IEMP	Integrated Environmental Monitoring Plan
IIMS	Integrated Information Management System
MDCR	Minimal Detectable Count Rate
MEF	Material Evaluation Form
MSCC	Material Segregation and Containerization Criteria
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant Discharge Elimination System
OSDF	On-Site Disposal Facility
OU3	Operable Unit 3
PPE	personal protective equipment
PWID	Project Waste Identification and Disposition [form]
RD/RA	remedial design/remedial action
RI/FS	Remedial Investigation and Feasibility Study
ROB	roll-off box
ROD	Record of Decision
SAP	Sampling and Analysis Plan
SWIFTS	Site-Wide Waste Information, Forecasting and Tracking System
U.S. EPA	United States Environmental Protection Agency
WAC	Waste Acceptance Criteria

Units of Measure

sq. cm.	square centimeter(s)
dpm	disintegration(s) per minute
ft.	foot (feet)
mrem	millirem(s)
psi	pounds per square inch
yds^3	cubic yards

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1.0 INTRODUCTION

1.1 Project Statement

This implementation plan represents the sole remedial design deliverable developed for the Advanced Wastewater Treatment (AWWT) Complex decontamination and dismantlement (D&D) project, which has been prepared for regulatory agency approval pursuant to the Operable Unit 3 (OU3) Integrated Remedial Design/Remedial Action (RD/RA) Work Plan (DOE 1997a). This document presents a summary of the remedial design documentation prepared for D&D of the AWWT Complex. This D&D project is being implemented pursuant to the authority stipulated in the OU3 Record of Decision for Final Remedial Action (OU3 Final ROD) (DOE 1996a), which covers D&D, waste treatment, and disposition.

The purpose of this document is to summarize the AWWT Complex D&D design in the format and content stipulated by the OU3 Integrated RD/RA Work Plan and established by previously approved D&D implementation plans. This document elaborates, as applicable, on programmatic strategies developed for the Fluor Fernald self-perform D&D scope of work and project specifications (contained in Appendix C of this document).

1.2 Scope of Work

The AWWT Complex D&D project includes the following major activities:

- preparatory action/facility shutdown
- surface decontamination;
- above-grade building/component dismantlement;
- environmental monitoring; and
- material management.

Preparatory action: Inventory Removal and Safe Shutdown are not in the scope of this D&D project; however, Facility Shutdown shall be performed and pertinent information has been summarized in Sections 2 and 3. The following components are included in the AWWT Complex D&D project:

- Component 51A – Advanced Wastewater Treatment Facility
- Component 51B – Slurry Dewatering Facility
- Component 51C – AWWT Laboratory Expansion Building
- Component G-008 – AWWT Pipe Bridges

Requirements for above-grade D&D of the AWWT were developed using the performance specifications that were originally included in Appendix B of the OU3 Integrated RD/RA Work Plan. Appendix C of this Implementation Plan contains project-specific applications of these performance specifications that incorporate process improvements and lessons-learned from previous D&D projects at the Fernald Closure Project (FCP).

Excavation and removal of the underlying contaminated soil within the AWWT Complex footprint will be addressed in the Fernald Closure Project Area 7 Support Areas Integrated Remedial Design Package that will be submitted in May 2005. Excavation of contaminated soil will start after all the D&D activities are completed in the AWWT Complex footprint. **PCN1**

Department of Energy (DOE) will provide notification to the regulatory agencies of any significant changes to the design prior to implementation. Should the regulatory agencies have any concerns regarding any significant design change, DOE will properly address those concerns as soon as practicable and, if necessary, perform one or more of the following: amend the implementation plan, amend the OU3 Integrated RD/RA Work Plan, present an explanation of significant difference to the OU3 ROD, and/or amend the RODs. Significant changes to the design are those that require formal design modification that would impact the implementation strategies presented in this document. If necessary, affected activities may be suspended until the revision has been completed and approved. This course of action adheres to the commitments made in Section 4.2.2 of the OU3 Integrated RD/RA Work Plan for design changes.

Unlike all previous site complex D&D activities at the FCP, a portion of the existing the AWWT Complex will remain intact for operation after the AWWT D&D activities are completed. The portion of Component 51A that will remain after AWWT D&D is known as the Converted Advanced Wastewater Treatment Facility (CAWWT). The floor plan (Drawing #51D-5500-M-01326 Rev. 0) for the CAWWT facility can be found in Appendix D.

1.3 Plan Organization

This implementation plan is comprised of five sections and five appendices. Section 1 contains the remedial action project statement, scope of work, an overview of this implementation plan, and a brief description of the AWWT Complex. Section 2 describes the overall approach to implementing this above-grade D&D project, as applied from the OU3 Integrated RD/RA Work Plan. That approach includes the projected sequence for remediation of structures, a plan for materials management, environmental monitoring activities, and the project-specific applications of implementation strategies for above-grade remediation. Section 3 presents pertinent component history and applicable component-specific details of the applicable remedial tasks. Section 4 presents the schedule for remediation and project reporting. Section 5 describes the Fluor Fernald self-perform D&D strategy and FCP project management approach.

Appendix A contains a discussion of potential environmental and occupational sampling for this project, based on the assumptions in the Sampling and Analysis Plan (SAP) contained in Appendix D of the OU3 Integrated RD/RA Work Plan, and on the remediation requirements presented in this plan. Appendix B provides a summary of the evaluation of material disposition alternatives for accessible metals and a tabulation of the cost comparison between the disposition alternatives. Appendix C provides the project performance specifications. Appendix D provides copies of available drawings and sketches that show floor plans and

elevations of buildings/components. Appendix E contains selected photographs of notable features of the AWWT Complex.

1.4 Location of the AWWT Complex

The AWWT Complex project area is located at the U.S. Department of Energy (DOE) Fernald Closure Project (FCP) in Fernald, Ohio. The AWWT Complex is located in the southwest corner of the former Production Area just southwest of the former Pilot Plant Complex location. The AWWT project area is illustrated in Figure 1-1.

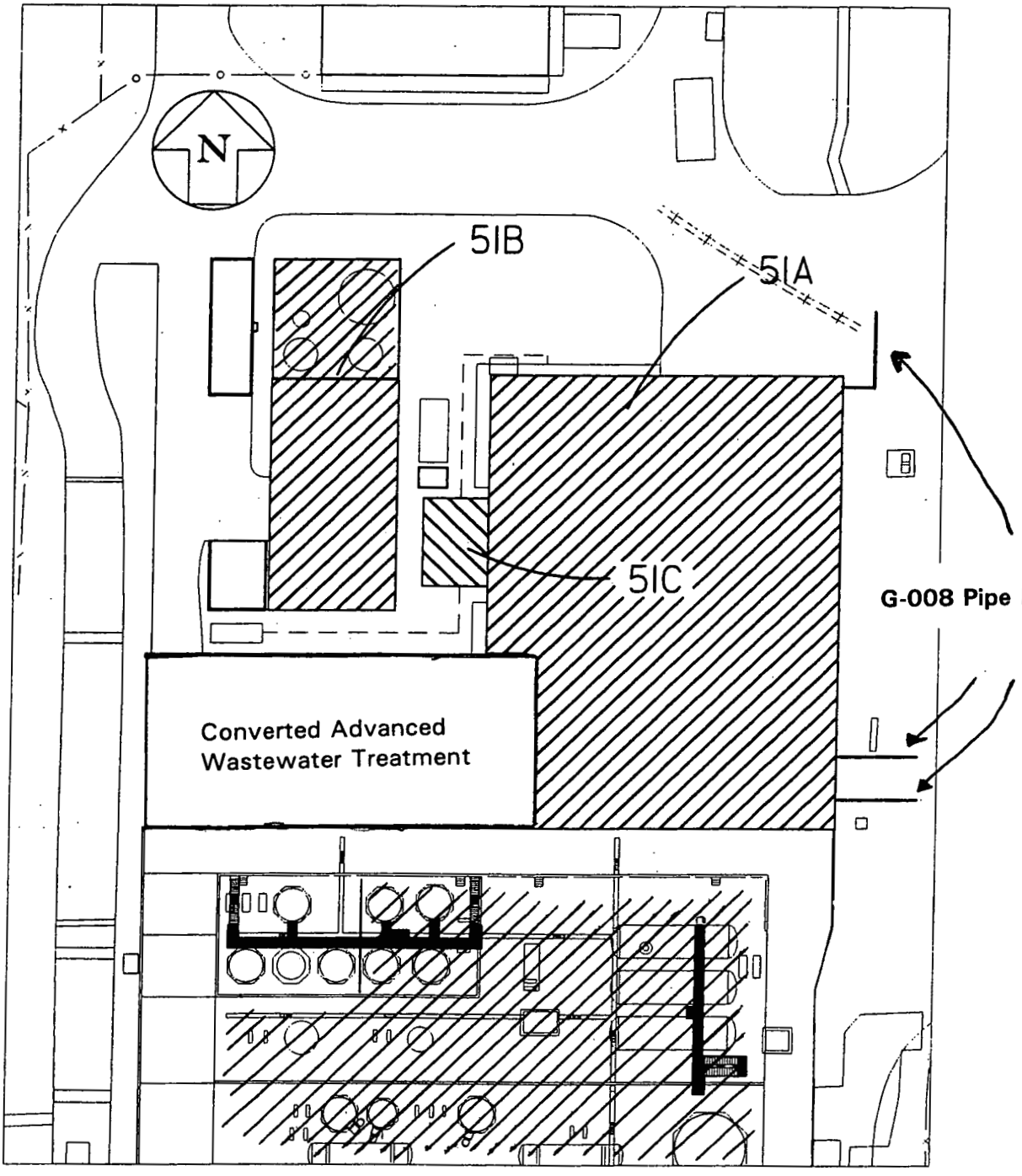

FIGURE 1-1 Advanced Wastewater Treatment Complex **PCN1**

2.0 GENERAL PROJECT REMEDIATION APPROACH

The overall approach to the above-grade D&D of the AWWT Complex is based on the project-specific applications of the programmatic elements and tasks that were described in Section 3 of the OU3 Integrated RD/RA Work Plan. Section 2 of the implementation plan summarizes the project-specific applications of those elements.

2.1 Sequencing of Remediation

The remediation sequence for the components in the AWWT Complex D&D project covers the period of: 1) premobilization, which includes the preparation, review and approval of the Fluor Fernald self-perform work control documents, health and safety documents, etc; 2) mobilization, which includes establishing project support facilities and controls; 3) actual D&D field activities for each building/component; and 4) demobilization, which includes securing the area and decontaminating/removing Fluor Fernald self-perform equipment. The actual sequence of building/component D&D will be determined by the Fluor Fernald self-perform project schedule which includes the operational sequence for shut-down of facilities. It is anticipated that the sequence for dismantlement may be the following:

1. Component G-008 – AWWT Pipe Bridges
2. Component 51B – Slurry Dewatering Facility
3. Component 51C – AWWT Laboratory Expansion Building
4. Component 51A – Advanced Wastewater Treatment Facility

2.2 Characterization of the AWWT Complex

A recent radiological survey was obtained to substantiate the information summarized in Table 2-1.

TABLE 2-1 Summary of Radiological Survey Data

Comp. No.	Alpha Removable (dpm/100 sq. cm.)			Beta-Gamma Removable (dpm/100 sq. cm.)			Beta-Gamma Total (dpm/100 sq. cm.)		
	Avg Value	Max Value	Sample Size	Avg Value	Max Value	Sample Size	Avg Value	Max Value	Sample Size
51A & Pipe Bridges	<MDCR	<MDCR	47	<MDCR	<MDCR	47	.38k	18k	47
51B	<MDCR	<MDCR	31	<MDCR	<MDCR	31	8.7k	75k	31
51C	<MDCR	<MDCR	14	<MDCR	<MDCR	14	<MDCR	<MDCR	14

MDCR – Minimal Detectable Count Rate **PCN1**

Materials to be generated from components in the AWWT Complex D&D project are considered low-level radiological waste, which may be disposed in the On-Site Disposal Facility (OSDF) provided that other physical OSDF Waste Acceptance Criteria (WAC) is met. **PCN1**

The most significant radiological concerns are the health and safety of the workers during dismantlement of equipment/systems and other miscellaneous materials. The presence of radiological contamination justifies at least best available technology to prevent or minimize generation of airborne dusts. The isotope of concern for the AWWT Complex D&D project is uranium-238. All activities in this complex shall be performed under radiological controls for uranium-238. All waste and debris from this area shall be treated as uranium-contaminated. Standard technology will be used to prevent or minimize generation of airborne contamination.

Specific uses of the radiological survey data summarized in Table 2-1will support the following efforts:

- Developing the safety assessment documentation to support the proposed activities.
- Enhancing the project-specific health and safety requirements and determining potential concerns for worker protection based on the suggested D&D techniques.
- Documenting expected contamination levels for self-performing the work.
- Determining personnel monitoring requirements.
- Identifying specific systems or equipment that will require radiological engineered controls prior to dismantlement.
- Air modeling for and assessment of potential radiological air emissions.
- Identifying potential gross radiological contamination that will need to be removed/fixed prior to exposing affected material surfaces to the environment.

Due to the recent construction of the AWWT Complex, it is anticipated that there will be no friable asbestos containing materials (ACM) present. ACM floor tile may exist in the AWWT Complex. The AWWT Complex will be evaluated by a State of Ohio-Certified Asbestos Hazard Evaluation Specialist for asbestos containing materials (ACM) prior to demolition activities. Results of the evaluation will be used to determine asbestos abatement requirements for the AWWT Complex D&D activity. The results of this evaluation will be forthcoming and therefore are not available to be presented in this implementation plan. If required, sampling criteria for asbestos abatement activities will be established just prior to the AWWT Complex D&D Project activities.

2.3 Materials Management

Project-specific material management strategies for the AWWT Complex D&D project are based on the overall material management strategies that were presented in Section 3.3 of the OU3 Integrated RD/RA Work Plan and the project-specific requirements presented in Specification Section 01120. Management of primary and secondary waste materials estimated to be generated during the AWWT Complex D&D project is discussed in this section.

Waste minimization will be accomplished, in part, by ensuring that equipment and material are unpacked prior to entering the FCP controlled area whenever possible. This administrative

control will limit the amount of trash that could become contaminated and limit quantities of any hazardous material brought into the project area.

2.3.1 Primary Materials Management

Primary materials refer to the debris that will be generated by the dismantlement of the components and structures associated with the AWWT Complex. During the remedial design, a Project Waste Identification and Disposition form (PWID — see Section 3.3.1 of the OU3 Integrated RD/RA Work Plan for description) was developed which identifies all debris to be generated along with quantities, characterization, container requirements, and disposition location. In support of the PWID, each waste stream has been characterized and documented in a Material Evaluation Form (MEF) or an OSDF profile. In order to provide the sizing, segregation, and containerization requirements outlined in the OU3 Integrated RD/RA Work Plan, a Material Segregation and Containerization Criteria form (MSCC — see Section 3.3.1 and Appendix A of the work plan for description and example, respectively) was developed.

Pursuant to DOE's commitment to evaluating potential opportunities for recycle/reuse, as described in Section 3.3.6.1 of the OU3 Integrated RD/RA Work Plan, an evaluation of material disposition alternatives for accessible metals was performed and a summary of the results is presented in Appendix B.

Specification Section 01120 identifies debris/waste handling requirements. Debris handling requirements are defined by the following classifications: 1) non-process debris; 2) process debris and 3) suspect process debris. Details regarding the handling of each of these types of debris are described in Article 3.2 of Specification Section 01120. All debris is required to be sized, segregated, and containerized in accordance with MSCC. To ensure debris that is destined for disposal in the OSDF meets the OSDF waste acceptance criteria (WAC), the MSCC identifies specific materials from the project that are known to either meet or not meet the OSDF WAC. When debris is generated, a representative from the OSDF Waste Acceptance Organization will be present to ensure that debris is segregated according to the proper categories identified on the MSCC.

2.3.2 Secondary Waste Management

Management of secondary wastes includes handling, sampling, storage and disposition of secondary waste materials generated during remediation. Secondary waste includes vacuumed particulate, filters, personal protective equipment (PPE), spent consumables and washwaters.

Depending on the DOE-approved methods for equipment/systems dismantlement, it is possible that up to 25,000 gallons of decontamination washwaters may be generated during the D&D of the AWWT Complex and the Fluor Fernald self-perform equipment. Since decontamination methods include non-water wash techniques (e.g., encapsulation), the projected volume of washwater is only a liberal estimate based on previous OU3 D&D projects that used high pressure, low volume water spray. Wastewater will be managed in accordance with the

strategies laid out in the OU3 Integrated RD/RA Work Plan. The wastewater collection system will include polyethylene-lined containment structure(s) over which equipment is washed, and filtered (20- micron prefilter and 5-micron filter) to remove entrained particulate during transfer into a holding tank. Wastewater handling includes sampling and analysis of water and sludges for constituents of concern (see Section 2.4 for wastewater monitoring), discharge of approved effluent into the FCP wastewater treatment system (Converted Advanced Wastewater Treatment Facility (CAWWT)) and sludge removal. The need for washwater sampling is determined by the CAWWT Manager if significant levels of constituents of concern are present, based on an assessment of relevant OU3 Remedial Investigation and Feasibility Study (RI/FS) (DOE 1993) analytical data and process history. Section 2.4 further discusses wastewater monitoring strategies. The ultimate disposition of wastewater into the CAWWT is managed in accordance with existing site procedure EP-005 "Controlling Aqueous Wastewater Discharges into Wastewater Treatment Systems". PCN1

2.3.3 Estimates of Material Volumes

Materials to be generated during this project have been categorized using the same classification system that was developed for and described in the OU3 RI/FS and OU3 Integrated RD/RA Work Plan, and are estimated in Tables 2-2, 2-3, and 2-4.

2.3.4 Material Handling, Storage, Treatment, and Disposition

Materials generated from the D&D of the AWWT Complex will be reduced in size, segregated, and containerized in accordance with the requirements identified in the MSCC form. Quantities and disposition of specific material categories were documented in the PWID form for internal use. Tables 2-2, 2-3, and 2-4 summarize the MSCC and PWID by identifying quantities, containerization, staging/interim storage, and disposal requirements for each category of material. Debris size requirements are described in Sections 3.3.2.1 and 3.3.6.2 of the OU3 Integrated RD/RA Work Plan.

As stated in Section 3.3.2.2 of the OU3 Integrated RD/RA Work Plan, materials will be identified according to the OU3 debris categories identified in the MSCC. The MSCC for the AWWT Complex allows for commingling of OU3 debris categories A, B, D and incidental E into the same Roll-Off Boxes (ROBs) or Articulating Dump Truck (ADT) since each of these material types conform to OSDF Impacted Material Category 2. The majority of Debris Category E (concrete), however, will be placed in separate ROBs or ADTs. Commingling of OU3 debris categories A, B, D and incidental E is being done to conform to the OSDF impacted material categories in order to facilitate placement. By allowing the commingling of these types of debris into the same ROB or ADT, there will be more efficient use of a limited number of available ROBs or ADTs at the FCP. Materials will be containerized inside the project boundaries adjacent to structures being dismantled. It is currently planned that filled containers will be covered/sealed, screened for exterior radiological contamination, inspected, tagged, and transported directly to the OSDF Transfer Area. Should any materials be encountered that do not meet the OSDF waste acceptance criteria (e.g., materials with "visible

process residues") as defined in Specification Section 01120, they will be segregated from OSDF-bound materials. This debris that exceeds the OSDF Waste Acceptance Criteria will be evaluated for the appropriate offsite disposal destination.

TABLE 2-2 AWWT Complex Bulked Material Volume Estimates (yd^3)

Component Number	OU3 Debris Categories								
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F/G/H	Cat. I-2	Cat. 1-4	Totals
51A	172	3697	0	963	1033	0	60	30	5955
51B	564	1247	0	162	0	0	20	10	2003
51C	130	955	0	63	0	0	9	0	1157
Pipe Bridges	217	31	0	60	0	0	0	0	308
Complex Total	1083	5930	0	1248	1033	0	89	40	9423
Container/ Quantity	ROB or ADT 37	ROB or ADT 198	N/A	ROB or ADT 42	ROB or ADT 92	N/A	ROB 3	ROB 2	
Interim Storage	AWWT Pad	AWWT Pad	N/A	AWWT Pad	AWWT Pad	N/A	ROB	ROB	
Disposition	OSDF	OSDF	N/A	OSDF	OSDF	N/A	OSDF	OSDF	

General Notes:

OU3 Debris Categories: Cat. A – Accessible Metals; Cat. B – Inaccessible Metals; Cat. C – Process-Related Metals; Cat. D – Painted Light Gauge Metals; Cat. E – Concrete; Cat. F – Acid Brick; Cat. G – Non-Regulated ACM; Cat. H – Regulated ACM; Cat. I – Miscellaneous Materials; Cat J – Special Handling.

ROB: Roll-Off Box holds 30 cubic yards (810 cubic feet) and/or 16.95 tons of material; ADT: Articulating Dump Truck, holds up to 18 cubic yards of material.

If necessary, Category A, B, D, and E debris may be temporarily stockpiled on the AWWT Complex Pad at project completion.

TABLE 2-3 AWWT Complex Unbulked Material Volume Estimates (yd^3)

Component Number	OU3 Debris Categories								
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat F, G & H	Cat. I-2	Cat. I-4	Totals
51A	49	1056	0	275	689	0	30	15	2114
51B	161	356	0	46	0	0	10	5	578
51C	37	273	0	18	0	0	4	0	332
Pipe Bridges	62	9	0	18	0	0	0	0	89
Complex Total	309	1694	0	357	689	0	44	20	3113

General Note
Refer to Table 2-2 for OU3 Debris Category descriptions.

TABLE 2-4 AWWT Complex Material Weight Estimates (Tons)

Component Number	OU3 Debris Categories								
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F, G & H	Cat. I-2	Cat. 1-4	Totals
51A	96	1349	0	96	1550	0	12	1	3104
51B	314	455	0	16	0	0	4	1	790
51C	73	348	0	7	0	0	2	0	430
Pipe Bridges	119	12	0	6	0	0	0	0	137
Complex Total	602	2164	0	125	1550	0	18	2	4461

General Note:
Refer to Table 2-2 for OU3 Debris Category descriptions.

The current project strategy for managing debris is to deliver containerized debris directly to the OSDF Transfer Area; however, stockpiling of Category A, B, D and E debris for interim storage is a possibility due to the limited number of ROBs and ADTs or availability of area in the OSDF at the FCP. Stockpiling of debris, if utilized, will follow the strategies provided under Section 3.3.2.3 of the OU3 Integrated RD/RA Work Plan, which requires best available storage configuration for OU3 Debris Categories A, B, D and E. The strategy for stockpiling also requires removing or encapsulation of contaminants. Specification Section 01517 debris release criteria requires that gross contamination be removed or encapsulated on debris surfaces prior to their removal from a building enclosure or local containment. To the

maximum extent practicable, debris will be containerized following sizing when sufficient containers are available. Should the best available storage configuration (i.e., containers with lids or tarps) be temporarily unavailable, stockpiling of debris that meet the release criteria on pads with run-off controls would be performed. At this time, there are no plans to stockpile the AWWT Complex debris. In the event stockpiling becomes necessary, all site requirements will be met.

Material tracking is performed using the Site-Wide Waste Information, Forecasting and Tracking System/Integrated Information Management System (SWIFTS/IIMS) through the FCP waste acceptance organization. Project-specific reporting on material disposition will be provided by a SWIFTS/IIMS summary in the Project Completion Report. Section 3.3.2.2 (Segregation, Containerization, Tracking) of the OU3 Integrated RD/RA Work Plan describes material tracking and reporting using SWIFTS. OU3 Debris Categories A, B, D and E debris are classified as OSDF Category 2 material. Therefore, commingled Debris Categories A, B, D and E quantities will be tracked in SWIFTS/IIMS under a discreet Material Evaluation Form that corresponds to Impacted OSDF Category 2 debris in interim storage. Debris Category G (Transite) and Debris Category H (Regulated ACM) are regarded as OSDF Categories 3 and 5, respectively, and will also be handled separately. Since the volume of commingled debris will represent a combination of waste streams, proportions of OU3 debris categories within that total volume will be derived based on original estimates to identify and track waste volumes by OU3 debris category. These derived quantities will be documented in the Project Completion Report for the AWWT Complex. Other than tracking debris specifically for the purpose of OSDF placement, project-specific material tracking and reporting strategies for the AWWT Complex D&D project do not differ from the strategies laid out in the OU3 Integrated RD/RA Work Plan and therefore no additional details were developed during the remedial design process.

The disposition strategy for the AWWT Complex material is consistent with the requirements stated in the OU3 Final ROD and strategies presented in the OU3 Integrated RD/RA Work Plan. Table 2-2 identifies that debris generated from this project will be placed in the OSDF. No treatment will be necessary for those materials destined for on-site disposal since all chemical-based waste acceptance criteria are met based on OU3 RI/FS data.

Any material failing to Meet OSDF WAC will be size reduced as required to meet Envirocare WAC and transported to Soil Pile 7 for staging pending shipment to Envirocare. **PCN1**

2.3.5 Material Recycling/Reuse

Accessible metals (Category A) from the AWWT Complex have been evaluated for potential recycling options and a detailed summary of that evaluation is available in Appendix B. Using the Decision Methodology for Fernald Material Disposition Alternatives (the "Decision Methodology"), 602 tons of potentially recyclable accessible metals (OU3 Debris Category A) from the AWWT Complex were evaluated by comparing the three leading alternatives to on-site disposal. Of the three phases of the Decision Methodology (Threshold Phase, Life Cycle

Analysis Phase, and Decision Phase), only the first phase was applied since the comparative evaluation of project costs for each alternative showed that the total costs for each of the recycling options greatly exceed the 25 percent total cost criteria compared to OSDF.

2.4 Environmental Monitoring

Environmental monitoring for the AWWT Complex D&D project will include supplemental radiological environmental air monitoring and wastewater monitoring. Groundwater monitoring is not needed to support this project but would be employed if necessary, as described in Section 3.6.2.3 of the OU3 Integrated RD/RA Work Plan.

Project-specific stormwater management is governed by the FCP Stormwater Pollution Prevention Plan (DOE 1996b) and any monitoring associated with that program is managed by OU5/Aquifer Restoration Project. Project-specific stormwater management includes the diversion of stormwater to appropriate site collection drains surrounding the project.

Surface Water (Wastewater) Monitoring

Section 2.3.2 of this Implementation Plan describes the wastewater management strategies that have been developed for the D&D of the AWWT Complex. The OU3 Integrated RD/RA Work Plan describes the overall strategies to be implemented for project monitoring of wastewater. Listed below are the specific references in the Work Plan:

- Section 3.2.5, Surface Decontamination: Wastewater collection and management strategies.
- Section 3.3.3, Management of Secondary Waste: The overall strategy for managing wastewater, as one of the primary aspects of secondary waste, through the site wastewater treatment system.
- Section 3.5.2, Management of Contaminated Water: References site procedure to be used for the evaluation and management of contaminated wastewater.
- Sampling and Analysis Plan (SAP)/Section 2, General Sampling and Data Collection Approach: Focuses on wastewater sampling, among other aspects of sampling.
- SAP/Section 3, Specific Sampling Programs: Sampling for disposition of wastes, including wastewater. Determination of hazardous, radiological, and other waste characteristics.

Potential elevated levels of contaminants of concern may be present within the AWWT Complex. Based on an estimated 25,000 gallons of potential washwater, it is anticipated hat up to twelve samples will be taken to determine isotopic radiological and heavy metals concentrations prior to discharge into the CAWWT Facility. Of those twelve samples, one will be a duplicate for quality assurance/quality control purposes. The purpose of the sampling is to ensure the adequacy of treatment capacity so that National Pollutant Discharge Elimination System (NPDES) permit requirements are met.

Project-specific reporting for wastewater will be provided in the project completion report. The report will include a summary of the data generated during the project. The report will include a summary of the results from sampling and analysis prior to its discharge into the CAWWT.

Radiological Air Monitoring

Occupational monitoring will be performed using personal and workplace air samplers in the work areas to ensure worker protection and will also serve as an indication of the effectiveness of engineering controls. Any potential emissions that could affect the outside environment would be detected first by environmental and occupational monitoring. Section 8.1 of the OU3 RD/RA Health and Safety Plan (Appendix E of the OU3 Integrated RD/RA Work Plan) describes the occupational air-monitoring program.

Environmental radiological air monitoring during the D&D of the AWWT Complex will consist of the Fernald Site Environmental Monitoring Program described in the site-wide IEMP, and discussed in Sections 3.5.1 and 3.6.2.1 of the OU3 Integrated RD/RA Work Plan. FCP boundary monitors are shown in Figure 2-1.

The need for a supplemental environmental radiological air-monitoring program for this D&D project was evaluated by modeling the potential release of radiological (uranium) contaminants from the components during D&D. The result of that modeling effort reveals that uranium emissions would be negligible and therefore, supplemental radiological monitoring is not warranted.

Radiological survey data summarized in Table 2-1 were used for the air emissions modeling input. Computer modeling of potential uranium emissions from the AWWT Complex was performed using the CAP88PC method to measure potential dose impacts from the project. CAP88PC is the personal computer version of the United States Environmental Protection Agency (U.S. EPA) model CAP88 that is the approved method for predicting dose impacts to offsite personnel from emissions of radionuclides under the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) regulations. It is emphasized that the CAP88PC model is being used as a tool to assess potential dose to offsite personnel from radionuclide emissions from a project in order to identify potential mitigative controls and supplemental monitoring measures; it is not being used as a means to demonstrate compliance with NESHAPs Subpart H. The method to be used for demonstrating NESHAPs Subpart H compliance is presented in the IEMP as a collective sitewide strategy. **PCN1**

The CAP88PC modeling methodology is prescribed by the U.S. EPA reference manual: U.S. EPA User's Guide for CAP88, Version 1.0, 402-B-92-001. Computer modeling of potential radiological emissions from the AWWT Complex used radiological smear data to provide a more realistic measure of removable alpha, beta and gamma contamination rather than fixed contamination (identified through intrusive sampling results from the OU3 RI/FS database and direct surface contamination surveys) for estimating contaminant release. The removable contamination data obtained through smear sampling represents a model input that depicts worst-case emissions since it represents removable contamination present prior to the

decontamination activities.

The modeling methodology assumed no controls on emissions release, such as high-efficiency particulate air (HEPA) filters on containment ventilation systems and a percentage (of removable contamination) that would become airborne during D&D activities. Potential emissions sources were treated as being in readily dispersible forms. The results of the computer modeling indicate that the maximally exposed individual would theoretically be located approximately 698 meters west-southwest of the project area and would potentially receive a maximum Total Effective Dose Equivalent of 6.0×10^{-2} mrem/year from the D&D activities which is less than the 0.1 mrem/year monitoring criteria and does not justify additional air monitoring for this project. Based on a review of the results of the computer modeling, no supplemental environmental air monitoring will be required for the AWWT Complex D&D activities. **PCN1** **PCN1**

Further justification for not providing project specific air monitors comes from analysis of data from the Plant 7 Dismantling – Removal Action No. 19 Final Report (DOE 1995), the Project Completion Report for Building 4A (DOE 1997b), the Plant 1 Complex – Phase I Project Completion Report (DOE 1997c) and the Thorium/Plant 9 Complex Project Completion Report (DOE 1999), which have shown that dismantlement activities resulted in negligible airborne radiological contaminant emissions. Results for airborne uranium contamination during those projects have been approximately 5 percent of the DOE maximum off-site guidelines of 0.1 pCi/m^3. The relationship between pCi/m^3 and mrem/year may be understood by the conversion factor used to equate the two terms at the FCP. If inhaled continuously (24 hours/day, 365 days/year), 0.1 pCi/m^3 of uranium in air will result in a dose of 100 mrem/year. It should be noted that various assumptions have been incorporated into the conversion factor. Mitigative measures that might be employed in the event the set criterion are exceeded would include an increase in engineering and administrative controls during a particular task that has been identified as the cause or possible cause of elevated radiological levels. Such controls could include negative pressure within an enclosed work area using additional HEPA filtration units or additional surface cleaning (wash) steps before removing material from the containment area.

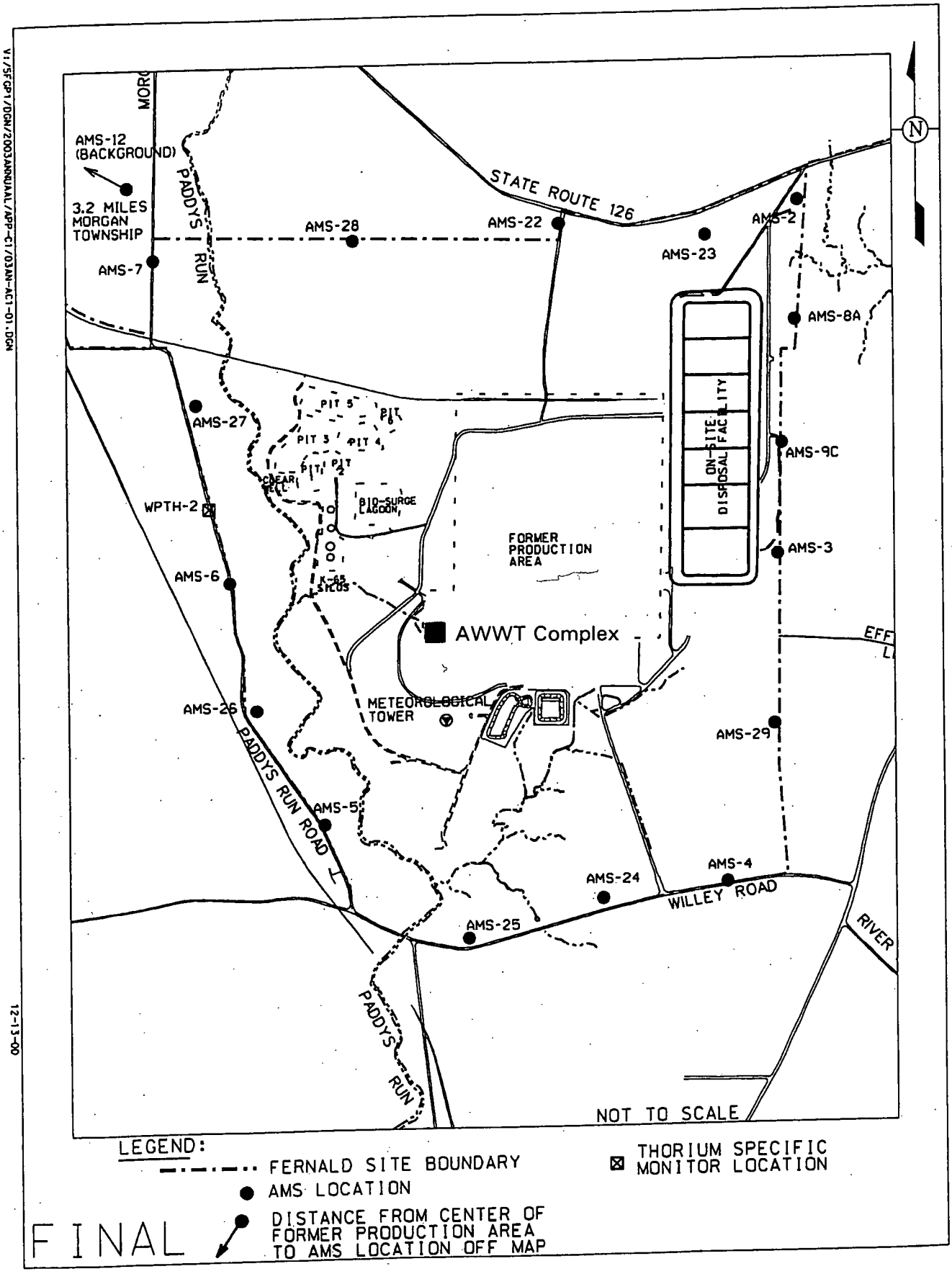

FIGURE 2-1 Air Monitoring Locations PCN1

2.5 Remediation Activities

A general approach to the D&D of the AWWT Complex is described in the following subsections. Section 3 elaborates on this discussion by identifying component specific interests concerning the remedial tasks listed below, as applicable. The remedial tasks that apply to the AWWT Complex include the following:

- Preparatory Action: Facility Shutdown;
- Surface Decontamination; and
- Above-Grade Dismantlement.

As required by Specification 01515 (Mobilization), the Fluor Fernald self-perform project team will mobilize in preparation for the D&D activities by establishing the construction zone boundary and material handling and containerization area(s), providing portable support facilities as needed, extending water and electrical utilities from designated tie-ins, and establishing stormwater controls. Site preparation by the FCP workforce will complete the relocation of radiological control point/break trailers to the designated area prior to mobilization. If needed, the Fluor Fernald self-perform project team will supply an asbestos hygiene trailer/facility.

Equipment that is potentially contaminated due to a history of use at another FCP radiological location will be inspected by FCP Project Management and surveyed by radiological control technicians to ensure that no contamination items are brought into the AWWT Complex D&D job site. An access control point will be established at the entrance to the AWWT Complex D&D job site for posting of permits and health and safety plans. Additional radiological control boundaries will be established in various areas as necessary prior to starting remediation activities in those areas. These boundaries will be established prior to starting in order to locate contaminated material staging areas as well as access and egress points to and from contaminated areas.

The project team, with oversight by FCP management, prepares work control documents that include the requirements stipulated by the performance specifications for detailing work activities. Examples of such work control documents include details relative to where the Fluor Fernald self-perform project team will erect barriers and fences for radiological control (Specification Section 01515), controlling fugitive emissions (Specification Section 15067), stormwater run-off protection (Specification 01515), and controlling erosion (Specification Section 01515). Throughout the remediation activities, the Fluor Fernald self-perform project team will notify management of conditions in the field (e.g., chemical spills, leaking containers) that require environmental response. All conditions that necessitate a response will be dealt with immediately.

2.5.1 Preparatory Action: Facility Shutdown

The Facility Shutdown scope will be performed by the AWWT Operations personnel and may consist of the following activities (not to include the CAWWT facility):

- removal of process liquids, solids and remaining chemicals; **PCN1**
- removal of all salvageable equipment;
- general clean-up; and
- disconnection of all utilities.

All steam, potable water, electrical power, fire protection alarms and systems, compressed air, and communication systems have been disconnected at the equipment or at the building exterior to establish the known condition of each energy source within the remediation area. Section 3.2.2 of the OU3 Integrated RD/RA Work Plan further discusses the scope of this preparatory action.

2.5.2 Surface Decontamination

Surface decontamination refers to the removal of loose surface contamination and/or potentially the encapsulation of remaining contaminants in order to minimize the potential for release of contaminants during handling and disposal. Specification Section 01517 addresses the removal and/or fixing of radiological contamination and generally covers the following activities:

- cleaning low-level uranium contaminated materials and/or building surfaces by contaminant removal or encapsulation to meet debris and/or structure release criteria;
- cleaning equipment and materials to remove visible residues, if practicable; and
- controlling and moving effluent produced during the removal and/or encapsulation of contamination.

To identify materials/surfaces that may require surface cleaning, radiological surveys will be reviewed. These surveys will provide Radiological Engineers with an indication of the extent of alpha removable, and beta-gamma removable, and total beta-gamma radiological contamination.

Prior to removing debris from a building enclosure or local containment, all external surfaces will be cleaned per Specification Sections 01517 and 01120. Specification Section 01517 identifies the requirements for removing/fixing of contamination, including DOE-approved methods, while Specification Section 01120 identifies the level of decontamination needed to meet material handling criteria. Among other requirements, these specifications require removal of gross removable surface contamination and sealing of all openings of equipment and debris that are potentially contaminated internally with removable contamination. For large items such as ductwork, the Fluor Fernald self-perform project team may apply a surface **PCN1**

encapsulant (Childers Chill Lock or equal – used previously in FCP D&D activities) using pressure spraying equipment to the internal surfaces in lieu of sealing. Acceptable methods for removing surface contamination include, but are not limited to: low volume hydro-blasting with a minimum of 1,000 psi, steam-cleaning, sponge blasting, CO_2 blasting, etc. FCP Project Management will be notified prior to encapsulation of debris to allow for inspection for visible process residues. Acceptable methods for encapsulating contamination, which is not readily removed by the above-identified methods include, but are not limited to, encapsulating coatings, non-strippable coatings as referenced in Article 2.2 of Specification Section 01517, and reinforced polyethylene sheeting which is sealed prior to movement to prevent migration of potential contaminants.

Prior to opening the structures that require decontamination to the environment, either by removal of exterior siding or by dismantlement, the Fluor Fernald self-perform project team is required to remove and/or fix radiological contamination on all surfaces in the facility until the detected radioactivity levels are below the facility release criteria identified in the Engineering Specifications, Section 01517 (Appendix C). FCP Project Management will perform a radiological release survey to ensure the radioactivity criteria are met.

2.5.3 Above-Grade Dismantlement

All above-grade dismantlement activities to be performed during the AWWT Complex D&D project are described in Section 3.2.6 of the OU3 Integrated RD/RA Work Plan. The specification sections listed below describe various project applications of structural building/component dismantlement:

- Bulk Removal: includes removal of electrical components, piping, construction debris, and heating, ventilation and air conditioning (HVAC) systems: (Specification Section 15065);
- Equipment/System Dismantlement: Specification Section 15065;
- Structural Steel Dismantlement: Specification Section 05126; and
- Concrete/Masonry Removal: Specification Section 03315.

The project team, with oversight by FCP Project management, prepares work control documents that include the requirements stipulated by the above referenced specifications. Based on these and other supporting specifications, a general description of above-grade dismantlement tasks is described below, while building-specific above-grade dismantlement tasks are discussed in Section 3.

Bulk Removal

Prior to breaching any system, the Fluor Fernald self-perform project team and Project Management will verify that all the systems are de-energized. Air-gapping between AWWT and CAWWT will be completed prior to any equipment/system and structural dismantlement activities.

All piping, valves, electrical components, conduit, wire, cable trays, construction debris, and HVAC systems will be removed and reduced in size. During removal of HVAC ductwork, internal surfaces will be visually inspected to ensure the absence of free liquids or solid materials. If free liquids or solid materials are found, an evaluation will be initiated by the FCP Project Manager to determine the requirements for material handling and removal. The evaluation will identify the contents and requirements for containerization, storage, and disposal. If the item fails visual inspection, it will be labeled as "process debris" (designated by red paint) unless the item is decontaminated free of such residues and thereby rendering it as "non-process" debris. Specification Section 01120 (Part III) describes the decision process used to evaluate whether debris is to be labeled as "non-process", "process", or "suspect process" and the action to be taken for each.

Methods such as reciprocating saws, portable band saws, and shears are the preferred methods for bulk removal. Surface wiping or HEPA filtered vacuuming may be required for contaminated surfaces where cuts are planned in order to minimize transferable contamination. Methods that minimize volatilization and release of paint constituents and other contamination are preferred; however, alternative methods may be proposed provided that HEPA-filtered local ventilation and adequate respiratory protection are used. Continuous workplace air monitoring for radioactivity will be performed to ensure that engineering controls employed by Fluor Fernald self-perform are adequate.

Equipment/System Dismantlement

As equipment/systems are removed, the previously inaccessible surfaces will be visually inspected to ensure the absence of free liquids or debris. If these materials are found, an evaluation will be initiated by FCP Project Management to determine the appropriate removal and handling requirements for the material (Specification Section 15065).

The project team will detail in its work control documents the sequence, methods of removal and dismantlement, equipment required, catalog cut sheets, drawings and methods and materials to control generation of airborne contaminants from cutting operations, etc. Staging of removed equipment and size reduction will be performed by the Fluor Fernald self-perform project team.

Structural Steel Dismantlement

Specification Section 05126 addresses structural steel dismantlement requirements. Exterior metal panels will be left in place on the structural steel members. All remaining items, such as non-load bearing steel members, windows and frames, doors, gutters and down spouts, will be removed using mechanical means. As these items are removed, the exposed component surfaces have the potential of holding debris and contamination. These areas will be visually inspected to determine if these surfaces meet the decontamination requirements of Specification Section 01517.

For the AWWT Complex, hydraulic shears or oxy-acetylene torches will be used to dismantle and size reduce the structural steel frame. Prior to and during structural dismantlement, the

area surrounding the structure will be sprayed with water as necessary to reduce fugitive dust emissions.

Pursuant to Specification Section 05126, the project team, with oversight by FCP Project Management, prepares work control documents that specify the methods for structural steel removal that contain the following information:

- Detailed sequence of dismantlement and method of cutting, including equipment to be used;
- Methods for contaminant control, including fugitive emissions during cutting;
- Detailed plan for controlling airborne radiological emissions; and
- If structural steel is removed in sections, verify the structural adequacy of the remaining structure. Calculations and drawings to verify the structural integrity of the partially dismantled structure must bear the stamp of a Registered Professional Engineer.

Furthermore, Specification Section 05126 requires that the Fluor Fernald self-perform project team apply mechanical means of cutting to remove the structural steel to the largest extent possible while also avoiding damage to adjacent structures, components, equipment, and utilities.

Concrete Removal

Pursuant to Specification Section 03315, the project team, with oversight by FCP Project Management, prepares work control documents that specify the methods for concrete removal that contains the following information:

- Detailed method and sequence of dismantlement, including equipment to be used;
- Methods for control of contaminants, including control of fugitive emissions;
- Materials, such as non-woven geotextile fabrics and surfactants, to be used;
- Methods of cutting, including equipment to be used;
- Calculations to verify structural adequacy of partially dismantled structure, as applicable; and
- If dismantlement method requires personnel on the roof, Fluor Fernald Engineering shall provide calculations verifying the structural adequacy of the roof to support personnel and equipment. These calculations shall be stamped by a Registered Professional Engineer.

The concrete walls will be radiologically surveyed prior to removal to determine the need for engineering controls, such as an enclosure with ventilation or water sprays to minimize fugitive dust, during removal operations. When controls are necessary, best available control technologies will be applied to concrete removal operations.

Specification Section 01515 addresses requirements relative to the preparation of the base slab during demobilization. Specifically, openings in the slab will be filled with granular material or soils and grout to provide a flat uniform surface to minimize the chance for water

accumulation & migration and to mitigate potential safety hazards. Wire and cable will be cut away to grade from the conduit embedded in the concrete.

2.6 Use of New Technologies

The performance specifications provide an avenue for FCP Project Management to use new and/or innovative technologies. The use of any new and/or innovative technologies will be identified in the work control documents prepared by the project team with oversight by FCP Project Management to provide safer, quicker, and/or less expensive remediation. Information relating to any new or innovative technologies incorporated during the decontamination and demolition activities will be issued with a submittal letter to the regulatory agencies.

4.0 SCHEDULE

This section presents the planning and implementation schedule for the AWWT Complex D&D project. Figure 4-1 presents the schedule for implementation of field activities beginning with the Project Start and ending with the submittal of the Project Completion Report, The primary milestones of the project include the following: 1) Project Start; 2) Completion of Field Activities; and 3) submittal of the Project Completion Report to the U.S.EPA and Ohio Environmental Protection Agency. The content for the Project Completion Report is outlined in Section 4.5 of the OU3 Integrated RD/RA Work Plan. **PCN1**

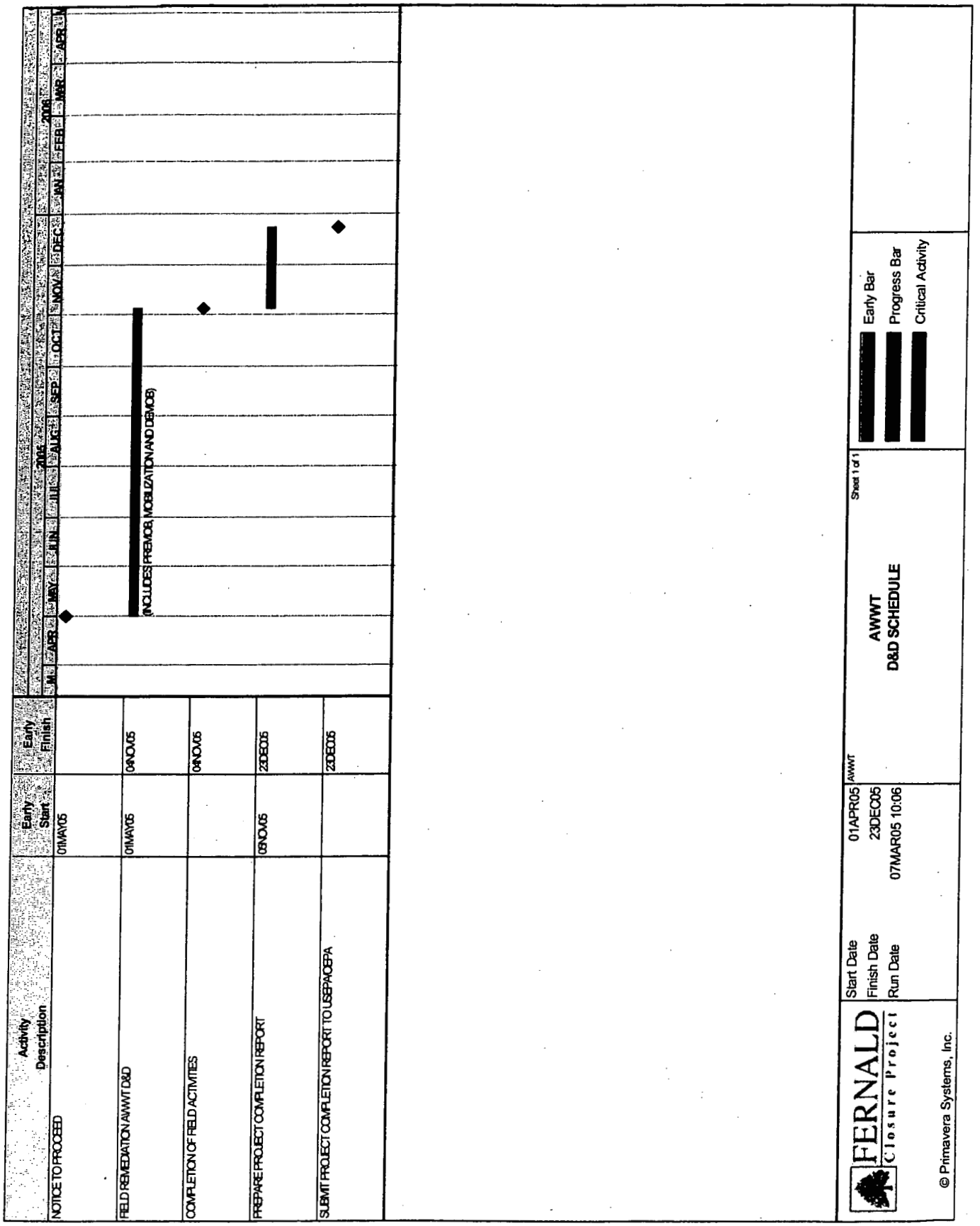

FIGURE 4-1 AWWT Complex Remediation Schedule